

CLAIMS

What is claimed is:

- 1 1. A roller bottle for use in culturing cells, comprising:
2 a bottom;
3 a top
4 a continuous side wall extending between said bottom and said top, said
5 side wall having an interior surface and an exterior surface, and being spaced about a
6 longitudinal axis of said bottle for allowing said bottle to rotate along said side wall about
7 the longitudinal axis for distributing, along said side wall, a liquid medium contained in
8 said bottle to wet said side wall, said side wall including at least one pleat extending
9 from a first point proximate said top to a first point proximate said bottom, said pleat
10 being arranged at an angle offset with respect to a plane perpendicular to the
11 longitudinal axis of said bottle, said pleat defining at least one interior channel on said
12 inner surface of said side wall for permitting laminar flow and distribution of said liquid
13 along said pleat, said interior channel providing a surface for culturing the cells.
- 1 2. The bottle of claim 1, wherein said angle is in the range of about 2°
2 to about 70°.
- 1 3. The bottle of claim 2, wherein said pleat is a single helical pleat.
- 1 4. The bottle of claim 3, wherein said angle is in the range of about 2°
2 to about 10°.

1 5. The bottle of claim 2, wherein said at least one pleat comprises a
2 plurality of substantially parallel pleats.

1 6. The bottle of claim 5, wherein said angle is in the range of about
2 40° to about 70°.

1 7. The bottle of claim 6, wherein said angle is approximately 65°.

1 8. The bottle of claim 1, further comprising at least one smooth land
2 running between a second point proximate said top and a second point proximate said
3 bottom.

1 9. The bottle of claim 8, wherein said land interrupts said pleat.

1 10. The bottle of claim 8, wherein said land is substantially arcuate, and
2 lies in a cylindrical plane of generally constant distance from the longitudinal axis of said
3 bottle.

1 11. The bottle of claim 10, wherein said exterior surface of said pleat
2 includes apices extending to a generally cylindrical plane co-incident with said plane of
3 said land.

1 12. The bottle of claim 1, wherein said pleat is approximately 0.079
2 inches deep.

1 13. The bottle of claim 1, wherein said interior channel has a
2 substantially uniform width.

1 14. The bottle of claim 13, wherein said interior channel is
2 approximately 0.195 inches wide.